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RIVER AND HARBOR BILLS.

I. INTRODUCTION—THE OPPOSITION TO RIVER AND HARBOR BILLS ; ITS NATURE AND SIGNIFICANCE.

The appropriation of money by Congress to improve rivers and harbors is a subject the importance of which is attested by the amount of discussion the question is constantly receiving. No appropriation bill, with the exception of the pensions bill, is more discussed or more adversely criticised. While the principle involved in governmental aid to river and harbor improvements and the wisdom of Congressional action for that end are easily defensible, the mistakes of practical legislation render adverse criticism both easy and justifiable. The work most needed is an historical study of the subject to show what Congress has done, to analyze critically what Congress is now doing and to compare our methods of improving rivers and harbors with the methods other nations employ. This study having been made, the action of Congress can be intelligently, justly, and, perchance, beneficially criticised. The question having both economic and social bearings justly lays claim to careful and scientific treatment, and most of all to a treatment that takes into account the actual conditions that have shaped the development of our present policy.

The attack on river and harbor bills has been made from two standpoints,—that of the practical politician and that of the economist. Dr. Ely, in an article* defending the use of public funds in the improvement of rivers and harbors, assigns three reasons for the wide-spread popular opposition to such action : (1) The railroads, which, in order the better to control commerce, desire to prevent the improvement of inland waterways ; (2) the desire of news-

*In "The National Revenues," by Shaw.

papers and politicians to influence voters ; and (3) the false economy of the past which has led to a waste of public money. Other reasons beside these can be assigned. There is no denying many instances of waste, resulting both from a false economy and from injudicious and unwise expenditure. The opponents of river and harbor bills, however, have made most unfair use of this fact. Special and isolated cases have been held to be the general rule and this with the deliberate purpose of misleading. This exaggeration of the amount of waste has given rise to much opposition ; but the spirit that has prompted much legislation and the methods by which Congressional action has been secured have done even more to incite criticism. Representatives of the people have, of a truth, secured appropriations for works in their districts more to further their personal ambition than to promote the general welfare. "Log-rolling" has been and is now employed to secure such legislation. These last criticisms are weighty and their worst feature is that they lie against our political methods. "Log-rolling" obtains in other than river and harbor bills ; and it is unfair, as some have done, to hold these bills alone responsible for the sins of our practical politics. Moreover, a saving fact, which this paper will subsequently reveal, is not to be lost sight of ; the bad results that might naturally be expected to follow our present methods of legislating on the subjects of rivers and harbors are not so important as, at first glance, might be anticipated.

Dr. Ely has been spoken of as an economist who favors liberal appropriations for rivers and harbors—more liberal than are now made. Professor Bolles, however, in his "Financial History of the United States" takes a quite different view. He says : "How singular * * * that with * * * a wise regard for economy in the ordinary expenditures of the government Congress should too often join an utter disregard for economy in much larger ones ! An annual illustration of this kind is the river and harbor bill. By a careful distribution of appropriations, enough votes are obtained,

save on rare occasions, to pass a bill for appropriating a large sum, from which accrues no corresponding public benefit." * In another connection he affirms that: "The return to the public for the millions spent, euphemistically in improving the navigation, is so small that the inquiry, though long delayed, whether it ought not to stop is likely to receive a correct answer. Of course many appropriations for this purpose have been fully justified, the navigation of many rivers and harbors has been improved; but too often such appropriations have simply improved the fortunes of the contractors without a corresponding benefit to the public." †

Dr. Albert Bushnell Hart of Harvard University has also criticised Congress very severely.‡ He regards the river and harbor bill to be to such an extent the result of "log-rolling" that "The number of members (of the House) who believe in a river and harbor bill as in itself meritorious is hardly sufficient to pass it." * * * "Furthermore," he declares "the committee (on Rivers and Harbors) does not scruple to insert items never before considered;" and for political purposes we interpret him to mean. These charges of Professor Bolles and Dr. Hart will be considered later in this paper.

President Arthur in returning without his signature the river and harbor bill passed by the first session of the forty-seventh Congress gave four reasons for his veto.§ They set forth so well the real and fancied objections that they may profitably be summarized here. They were: (1) The bill contains appropriations for purposes neither of common defence nor of general welfare. Such appropriations he held to be unconstitutional. (2) The tendency to appropriate money for improvements of merely local benefit is increasing. (3) The amount of this (1882) appropriation (\$18,743,-875,) is so large that it cannot be economically spent in a

* Vol. II. p. 543.

† Vol. II. p. 553.

‡ See papers of American Historical Association, Vol. III.

§ See American Cyclopædia, Annual, 1882, p. 148.

year. (4) The bill is extravagant, and extravagance debases the public morals.

The study of the history of river and harbor bills, which constitutes the second part of this paper, will show this opposition to be more loud than deep. Even the bill above referred to was passed over President Arthur's veto.

The reasons in support of wise river and harbor appropriations are so patent that they require nothing more than a brief summary here. 1. The constitutionality of the river and harbor bill is now seldom questioned. When its public utility has been recognized, a measure will not long be regarded as unconstitutional. The declaration that the ultimate basis of legislative action is public utility would have seemed, even to a loose constructionist, a broad statement fifty years ago, but I think it correctly expresses the present attitude of the American people toward the Constitution. Because we have conceived ours to be a "law-state," the road to this conclusion has been long and arduous. As early as the twenties Clay, Calhoun and others had brought Congress to regard internal improvements by the general government, including river and harbor bills, as constitutional; but the people at large had yet to be convinced. With the accession of the Democrats to power in the person of Andrew Jackson strict construction views again prevailed; and until the Republicans came into power, in 1861, the constitutionality of all kinds of internal improvements was denied. 2. A second reason for the improvement of rivers and harbors by the general government is that such work, when inter-state commerce is aided thereby, is of general benefit. 3. Water routes for freight and passengers serve as a check on railroad tariffs. 4. The best argument for the aid to river and harbor improvement at the expense of the United States government is that all great nations pursue such a policy.

Theoretical defence is hardly called for in the case of an institution so old and the legitimacy of which is constantly more widely recognized. The burden of proof rests with

the negative. Reforms in practical legislation and in the methods of applying money to works of improvement may be demanded—will be demanded in this paper ; but the time has passed for defending the institution against demolition.

II.—THE HISTORY OF RIVER AND HARBOR BILLS.

The first river and harbor bill was passed May 7, 1822. The first Congress had provided by law that all expenses which should "necessarily accrue in the support and maintenance and repairs of all lighthouses, beacons, buoys and public piers, erected, placed, or sunk in any bay, inlet, harbor or port of the United States for rendering the navigation thereof easy and safe" should be defrayed out of the treasury of the United States. This law applied as well to the shores of inland lakes as to the sea coast ; and all contracts for work were made by the Secretary of the Treasury with the approval of the President. This law, however, did not apply to other harbor improvements, nor to the improvement of water-ways. The total amount appropriated by Congress for these purposes, from 1790 to 1882, was \$78,777,831.76, of which sum \$73,523,869.20 constituted the net expenditure.*

Prior to 1822 the States carried on the improvement of rivers and harbors, raising money therefor by tonnage duties, the permission to levy which was granted them by enabling acts of Congress.† The following table shows the amounts appropriated annually and the total amount since 1822.

This table will have more significance and can be more intelligently discussed if at this point a hasty review be taken of the system of internal improvements, of which river and harbor bills constitute a part. At the beginning Congress expended nothing for internal improvements except for

* For an itemized account of appropriations for lighthouses, beacons, buoys, etc, see Sen. Doc., 1st Sess. 47 Congress, 1881-2, Vol. VII.

† Congress made one appropriation previous to 1822. It was in 1802, for the Delaware River and Public Piers, \$34,961.71.

Year.	Annual Appropriation.	Year.	Annual Appropriation.
1822	\$22,700 00	1857	\$850,833 00
1823	—	1858	57,502 11
1824	115,000 00	1859	85,000 00
1825	59,084 56	1860	87,372 06
1826	152,504 90	1861	180,000 00
1827	161,888 04	1862	20,000 00
1828	640,495 29	1863	238,073 53
1829	339,378 00	1864	100,000 00
1830	305,240 59	1865	647,808 00
1831	703,551 84	1866	163,000 00
1832	702,138 75	1867	8,777,329 61
1833	544,773 68	1868	—
1834	770,188 00	1869	3,676,530 00
1835	508,917 03	1870	300,500 00
1836	1,147,419 95	1871	9,376,400 00
1837	1,386,722 41	1872	188,713 97
1838	1,512,194 53	1873	11,554,506 52
1839	58,374 00	1874	1,648,132 96
1840	150 29	1875	12,382,517 50
1841	157,269 00	1876	156,500 00
1842	165,000 00	1877	6,310,000 00
1843	87,680 01	1878	1,046,000 00
1844	485,471 57	1879	10,321,034 40
1845	431,406 99	1880	8,139,100 00
1846	64,216 99	1881	11,824,984 58
1847	44,876 47	1882	9,741,852 51
1848	—	1883	18,988,875 00
1849	65,000 00	1884	—
1850	16,500 00	1885	14,948,300 00
1851	75,000 00	1886	—
1852	30,000 00	1887	14,464,900 00
1853	2,055,167 42	1888	—
1854	53,627 12	1889	22,397,616 90
1855	511,570 13	1890*	25,307,124 00
1856	52,166 48		

Total appropriation, \$207,415,380.69.

“lighthouses, beacons, buoys, etc.,” to which expenditure reference has been made above. Through the influence of Washington, Hamilton, Jefferson, Gallatin, Clay, Calhoun, John Quincy Adams and others, the United States began the construction of works of internal improvements. The

* This appropriation was made Sept. 1890. The other items are given for fiscal years; not necessarily in the year when enacted by Congress.

building of turnpikes by the general government began with the Cumberland Road, 1807; canal building was begun after the war of 1812. As said above, it was in 1822 that Congress began to improve rivers and harbors, a work that had previously been done exclusively by the States. In 1822, then, internal improvements by the general government meant appropriations for turnpikes, canals, rivers and harbors. Clay now linked internal improvements and the tariff together and named the union "The American System." The internal improvement part of the American System went by the board during the decade, 1830-1840. The causes of this were mostly economic, though partly the political one of Democratic strict constructionism.

President Jackson was not a very strict constructionist. He thought Congress had the power to appropriate money for the construction of a *national system* of improvements. He thought however, an amendment to the constitution ought to be passed, carefully defining the powers of Congress in the matter. Local improvements he considered Congress had no power to make; and he vetoed several bills that seemed to him passed to aid local enterprises. He and Congress could seldom agree as touching the local or national character of a proposed improvement. Van Buren was much more thoroughly a strict constructionist than Jackson, and found the constitutional limitations to Congressional action a more serious obstacle than did Jackson.

The real causes of the abandonment of Congressional aid to road and canal building lay neither with President Jackson nor with strict construction. The building of turnpikes practically ceased with the advent of the railroad in 1830. The causes that led to the cessation of canal building were, first, the opposition to the tariff. The bitter struggle against the tariff of 1828 naturally included opposition to internal improvements—the other half of the American System. The second cause—a somewhat complex one—is found in the land policy of the United States. The large revenues

from the tariff and more especially from the land sales caused a treasury surplus to exist during the years from 1830 to 1836; this surplus led to distribution, and distribution did much to put an end to internal improvements by the federal government. This large surplus could not be lessened by altering the tariff because of the compromise of 1833; and the opposition to cheap lands was so strong that no measure decreasing the price of lands could be passed. In view of the existence of this surplus and in view of Jackson's opposition to Congressional aid to local works of improvement, the Whigs changed front in the midst of the battle. They began advocating the distribution of the surplus arising from land sales among the states, and the surrender to the states of the prosecution of works of internal improvement. President Jackson had favored this plan in 1829 and afterwards also; but in 1836 he abandoned distribution. The Whigs then very naturally clung to the idea all the more tenaciously. Distribution came in 1836 and with results so disastrous that there was soon no money to distribute. The odium attaching to distribution did much to bring into disrepute internal improvements, to foster which works the national funds had left the treasury. The third cause for the overthrow of the canal, and the strongest one, was the railroad. The extension of railroads during the decade from 1830 to 1840 was rapid, and the superiority which they possess over canals as agents of most kinds of traffic was quickly recognized.

During President Van Buren's administration—as the preceding table shows—internal improvements practically ceased. When the Whigs passed the tariff of 1842 they tried to provide for the distribution of any surplus that might exist among the states for the purpose, among others, of promoting internal improvements. Had they succeeded the promotion of such works would probably have entirely ceased to be a national enterprise. President Tyler defeated their plan by his vetoes of distribution. His message of 1843 recommended that appropriations for harbors should be

limited to the western harbors. Congress passed eastern and western harbor bills. President Tyler vetoed the eastern bill. The following year he vetoed both. President Polk's war on the river and harbor bill was more bitter than President Tyler's had been. He vetoed the bill of 1845 and that of 1846. He favored and advocated at length a return to the policy pursued previous to 1822. This ended river and harbor legislation till 1854, when a bill passed by Congress received the veto of President Pierce. The next river and harbor bill was passed in 1870, though the opposition to appropriations for isolated improvements ceased in 1867. During the period from 1830 to 1870 it was seldom possible to appropriate money, by direct means, for the improvement of rivers and harbors. Riders were resorted to, and to them is due most of the appropriations indicated by the table. From 1854 to 1870 most of the appropriations for rivers and harbors were made under the head of "fortifications, etc." The smallness of the appropriations from 1835 to 1867 is, therefore, due in a large degree to the Democratic opposition to river and harbor bills; but the influence of the Mexican war and the war of the Rebellion was plainly in the same direction of decreased appropriations. President Polk's veto of 1845 was in part due to his desire to use all the revenues of the United States in carrying on the war. There was no money spent on rivers and harbors in 1848. The existence of a surplus on the other hand increased appropriations, as is shown by the sums given in the years of 1836-8, and at the present time.

III.—THE RIVER AND HARBOR BILL OF SEPTEMBER, 1890.

To complete the foregoing brief historical outline it is necessary to give an analysis of the river and harbor bill of September, 1890. River and harbor bills of this form date from 1870; since then appropriations have been made directly instead of by the indirect means of riders. The bill of 1890 originated, as all such bills do, with the House

Committee on rivers and harbors. The bill appropriates money for the construction of new works and for the continuation of many already begun. Appropriations are, in the main, based on reports of surveys directed by the previous bill to be made by United States Engineers. The bill of 1890 directs 203 surveys to be made; besides placing \$225,000 at the disposal of the Secretary of War, which he may use at his discretion for "examinations, surveys, and contingencies, and for incidental repairs for which there is no special appropriation." These reports and estimates of the engineers for works that can be entered on with profit are invariably and necessarily cut down by the House Committee in framing the bill.

Notice that it is the estimates of the engineers, not their recommendations, that are cut down—a fact often disregarded. Each river and harbor bill directs the making of a large number of surveys. The engineers are required by law to report on these surveys under the two heads of works "worthy of improvement" and "unworthy of improvement." The reports made in pursuance of the bill of August 11, 1888, declared that the works "worthy" of prosecution (*i. e.*, worthy in the sense that money could be profitably spent on them) would require \$140,000,000 for their completion. This does not mean that the engineers recommended Congress to appropriate any such amount, or to authorize the beginning of all the worthy works. Such a recommendation is the last one Brigadier-general Casey, the Chief of Engineers, would make; he has more than once urged Congress to begin fewer works than it does.

The House Committee that framed the bill of 1890 had, as the framers of former bills have had, a hard problem to solve. There were "worthy" new works whose completion would require \$140,000,000; and there were numerous works previously begun for which money must be appropriated. Each of the new works had one or more ardent champions. To complicate the matter still more word came from the Executive that the treasury could not spare more than

\$25,000,000 for rivers and harbors. The committee proceeded in this way. The works already begun were first provided for; then the list of proposed new works was gone through, and those least important or least strongly championed were struck out; this having been done, appropriations were made for the remaining works by scaling down the estimates so that the total amount granted should not exceed the limit of \$25,000,000. The scale used was made slightly elastic, however; so that the more important works received more proportionally than the lesser ones. Thus, the committee framed the bill. It passed the House with slight changes, and went to the Senate. There the appropriation was slightly increased. A compromise committee followed, and its adjustment of differences was accepted by both House and Senate practically without debate.

The bill of 1890 provides for the largest appropriation ever made by a similar bill, the total amount being \$25,307,124.* The number of items of appropriation is 435, including works in thirty-three States. For continuing works already begun there is given, for harbors, \$6,791,450; for rivers, \$15,541,279. For beginning new works there is given, for harbors, \$872,895; and for rivers, \$1,876,500.

The following tabular analysis of the bill of 1890 gives an itemized account, by States, of appropriations under the four heads just mentioned. The table shows what each State receives, and what share of the total appropriation is applied to the larger works.

The statement that the appropriations are based on surveys and estimates made by United States Engineers is, in most cases, true. There are some items in each river and harbor bill not based on estimates or recommendations of any engineer. So much more has been made of this fact than its gravity justifies that it may justly be considered here at some length. Members of Congress have secured, and doubtless for political and personal reasons, small ap-

* \$24,903,295 is the amount of money actually appropriated by the bill. The total I have reached includes some appropriations made conditionally, and some former grants yet unapplied.

RIVER AND HARBOR BILL OF 1890.

	HARBORS.		RIVERS.	
	New Works.	Works Begun.	New Works.	Works Begun.
Maine,	\$10,000	\$188,500	\$65,000	\$155,000
New Hampshire, . .	—	53,000	25,000	10,000
Vermont,	—	26,000	—	5,000
Massachusetts, . . .	22,000	452,500	10,000	22,000
Rhode Island, . . .	75,000	35,000	—	121,600
Connecticut,	55,000	192,500	10,000	67,500
New York,	145,000	980,000	255,000	483,000
New Jersey,	3,500	47,500	20,500	118,100
Pennsylvania,	200,000	45,000	—	100,000
Delaware,	—	118,100	5,000	5,000
Maryland,	—	350,000	39,000	18,500
West Virginia, . . .	—	—	—	361,500
Virginia,	31,000	150,000	20,000	357,000
North Carolina, . . .	—	30,000	303,000	10,000
South Carolina, . . .	—	478,000	12,500	105,000
Georgia,	25,000	385,000	—	97,500
Florida,	95,000	72,500	15,000	193,500
Florida and Alabama,	—	—	—	20,000
Alabama,	—	350,000	—	299,000
Mississippi,	—	9,000	15,000	92,500
Louisiana,	75,000	—	62,000	124,000
Texas,	40,000	800,000	10,000	53,000
Arkansas,	—	—	—	61,500
Missouri,	—	—	55,000	24,500
Tennessee,	—	—	—	25,000
Kentucky,	—	—	30,000	183,000
Ohio,	5,000	453,000	1,500	—
Indiana,	—	57,500	—	5,000
Illinois,	—	155,000	506,000	102,000
Minnesota,	—	147,350	—	25,000
Michigan,	21,000	407,000	45,000	1,476,000
Wisconsin,	4,895	314,500	—	110,000
California,	65,000	404,000	—	127,000
Oregon,	10,000	90,500	50,000	475,600
Washington,	—	—	10,000	23,000
<i>Miscellaneous.</i>				
Ohio River,	—	—	—	660,000
Purchase of Monongahela Lock, . .	—	—	162,000	—
Potomac River, . . .	—	—	—	280,000
Big Sandy River, . .	—	—	—	31,000
Chattahoochee River,	—	—	—	20,000
Coosa River,	—	—	150,000	150,000
Savannah River, . .	—	—	—	25,000

RIVER AND HARBOR BILL OF 1890. (Continued.)

	HARBORS.		RIVERS.	
	New Works.	Works Begun.	New Works.	Works Begun.
Red River,	—	—	—	\$130,000
Arkansas River, . . .	—	—	—	200,000
Cumberland River, . .	—	—	—	295,000
Tennessee River, . .	—	—	—	505,000
Menomonee River, . .	—	—	—	54,000
St. Croix River, . . .	—	—	—	8,000
Wabash River; . . .	—	—	—	655,000
Calumet River, . . .	—	—	—	50,000
Mississippi River, . .	—	—	—	4,567,000
Missouri River, . . .	—	—	—	1,100,000
Columbia and Wil-				
lamette Rivers, . .	—	—	—	676,000
Purchase of Canals, .	—	—	—	355,129
Cumberland Sound, .	—	—	—	112,500
Delaware River, . . .	—	—	—	250,000
	\$872,895	\$6,791,450	\$1,876,500	\$15,541,279

Total, including \$225,000 for extra surveys, \$25,307,124.

propriations for works not recommended by the engineers. One instance—and the only one—of this is found in the following clause of the last bill: "Improving James River, Virginia; continuing improvement, two hundred thousand dollars: Provided, That three thousand five hundred dollars of this amount, or so much thereof as may be necessary, may be expended, in the discretion of the Secretary of War, in removing the bar at the mouth of Turkey Island Creek or Bayou." The engineer in charge of the James River improvements made no recommendation that the bar at the mouth of Turkey Island Creek or Bayou be removed; in fact, he knew nothing of such a bar until the bill was passed. The expenditure of this \$3500, however, was made discretionary with the Secretary of War; he, of course, acted on the judgment of the engineer in charge. This engineer did not recommend the removal of the bar, and the \$3500 were not thus spent. Still, it is not impossible that such an

insertion as this to remove the bar at the mouth of Turkey Island Creek or Bayou should be just and wise. It is hardly probable that Congress is able to direct the making of all needful surveys, or that no surveys needful and proper to be made will be omitted by the engineers. An individual, deeming it to be the duty of the United States to make a particular survey and improvement, tries first to enlist the interest of a local engineer, and through him that of the chief engineer. If he fails, he may go to the Secretary of War with an appeal. If he can secure from none of them what he wishes, his resort is his representative in Congress, through whose influence he may still secure the desired appropriation. This power of the individual to appeal directly to the government is a fundamental principle of our popular institutions; and the exercise of this right in the case of river and harbor legislation is not to be condemned off-hand. The discretionary power vested in the Secretary of War and his engineers regarding the expenditure of appropriations is a check quite sufficient to prevent waste in most cases.

I am informed by Col. Craighill, of Baltimore, who is the Division Engineer in charge of the Baltimore Harbor and James River, and Consulting Engineer for the Atlantic and Gulf seaboard, that not one per cent. of the money appropriated by Congress is wasted on works of no national importance. Even this estimate of one per cent. is too large. The following classification is one made in the office of the Chief Engineer. Though this was made while the bill was before the Senate, six weeks before its passage, the bill was not much changed afterwards. The classification is based on the tonnage, and is carefully and accurately made. The bill was found to contain appropriations for works:—

Of purely national benefit,	\$14,176,000
Of large national benefit,	5,270,850
Of comparatively small national benefit,	4,361,845
Of only local benefit,	72,500
Total,	<u>\$23,881,195</u>

That "log-rolling" was employed in the passage of the bill under discussion is neither to be denied nor defended. "Log-rolling" is opposed to wise and honorable legislation, and is to be condemned; yet, in denouncing it, are we also to inveigh against river and harbor legislation? Is this bill to bear all the sins of "log-rolling," and the pensions bill and the tariff bill go free? Do not the evils of "log-rolling" manifest themselves in a more acute form in tariff legislation than elsewhere? Indeed, there are two sides to the question of "log-rolling." I condemn it; but do so mindful that no practice so much in vogue can exist without a reason, and do so mindful of the difficulty of suggesting a cure. Another way is yet to be suggested whereby the scattered localities may be represented in legislation and their opposing interests receive just recognition. The small waste of the money appropriated to improve rivers and harbors is strong evidence that many of the evils of "log-rolling," as regards this bill, are obviated. There is, it is true, a large waste of money in the appropriations for rivers, because of the fact (as will be shown in a later chapter) that a different method of applying funds to works would result in a great saving. This, however, indicates a waste only in a negative sense, and is entirely dissociated from "log-rolling."

These two charges of "log-rolling" and waste just referred to have been made by Dr. Albert Bushnell Hart of Harvard University, and by others. Dr. Hart, as has been observed, gives "log-rolling" such influence in river and harbor legislation that he declares "the number of Congressmen who think river and harbor bills in themselves meritorious is insufficient to pass them." The statement may be correct; but it is hardly to be accepted without some evidence. On the surface, at least, it seems improbable that these bills should regularly pass, and provide each time for a larger distribution of public money, when a majority of Congress considered them without sufficient merit intrinsically to warrant their passage.

IV.—THE RIVER AND HARBOR LEGISLATION OF THE
UNITED STATES COMPARED WITH THAT OF ENGLAND
AND FRANCE.

The relation of the English Government to river and harbor improvement is very different from the relation of the United States to such works—a fact easily accounted for by geographical and historical considerations. England has no long rivers, and but few rivers capable of navigation above tide water; thus, the improvement of national waterways has been of small economic moment. Again, private ownership of inland waters has been more zealously maintained in England than in the United States. Till recently individuals and municipalities have retained the rights of conservancy quite without interference. These reasons explain why the improvement of English rivers and harbors has so largely been the work of corporations, private or municipal. These considerations apply with less force to the English dependencies. Many of their rivers, as for instance the St. Lawrence, are large; but the colonies have pursued, very naturally, the same policy as England in making improvements.

The Harbor Department of the Board of Trade has the general supervision of harbors. That its powers are those of general supervision only, is shown by the budget estimates for 1890–91. £15,022 is all that is asked for to be expended on the harbors under the Board of Trade. London Harbor until 1858 was under purely municipal control. It is now controlled by two boards whose character is partly municipal and partly national.

We are, however, most concerned with the manner in which the money taken from the tax payers is applied to improvements, whether it be by the local units or by the general government. The construction of works is regularly carried on in one of two ways, either by municipalities, or by so-called trusts, i. e., private corporations chartered by the government. These trusts sometimes receive aid from the imperial government and oftener from a municipal-

ity ; but they look for the major part of their remuneration to tolls and other river and harbor dues. The largest improvement on foot in England to-day is the Manchester Ship Canal. The enterprise is being carried on by a trust, aided somewhat by the city of Manchester. The improvement of Montreal Harbor well illustrates English methods. The work has been carried on by a trust, called "The Harbor Commissioners of Montreal," and chartered by the Dominion Government. The trust has been remunerated by tonnage dues and wharfage fees. The Dominion government aided the trust in dredging out the ship channel, and in 1888 paid up the trust's debt that it had acquired in maintaining the ship channel. The ship channel then became one of the public works of the Dominion and tolls were abolished. The trust and City Council of Montreal are now coöperating in the improvement of the harbor ; thus the enterprise has become private, municipal and national. The more obvious advantages of the English plan are, that only those improvements are begun which give promise of resulting in a large traffic on which the corporation may levy tolls ; this means that important works only will be begun ; and that when begun they will be pushed to a speedy completion. The chief disadvantages are such as arise from governmental subscription to private corporations ; and from the subjection of commerce to the taxes levied by corporations. In the case of large harbors a third argument against the trust system appears. The following quotations from a work on "The Industrial Rivers of the United Kingdom" is a good statement of the argument : "The honor of making the first dock of London is due to Mr. Perry, a ship builder, who in 1790 opened the Brunswick dock for East Indiamen. * * * Because of the immediate popularity of this dock * * * the West India merchants subscribed £800,000 for a dock in the Isle of Dogs ; Parliament was petitioned, inquiries were held and schemes innumerable were proposed by engineers and others. Many of the last are extremely interesting and show a grandeur of conception

which causes many now-a-days to regret that some such *comprehensive* and *uniform scheme* was not carried out once for all by the government or the corporation of London. *But prejudice, vested interests, and all the other forces that fight against progress were too strong and the docks of London had to grow up a system of patchwork, due solely to the enterprise of private individuals.* It was not until July 12, 1799, that the Act authorizing the construction of the West India Dock was passed, and then Parliament did all it has ever done for the port by paying out of the consolidated fund £1,600,000 as compensation to owners of legal quays and sufferance wharves, lightermen and watermen." *

French river and harbor improvements are government enterprises. The Department of Public Works and its engineers decide what rivers and harbors need improving, determine on proper plans, and exercise supervisory control of all work, whatever be the method of prosecution. There are two general methods employed by the French government in getting its work done : First, by the direct employment of laborers, to supervise whom government engineers are delegated. Second, and chiefly, by contracts whereby contractors prosecute works according to plans and under the supervision of the government engineers.

The Department of Public Works has charge of many improvements beside those of rivers and harbors. The government constructs the national highways and bridges and builds many of the railroads. The public works of minor importance, though prosecuted by the departments and communes, are, nevertheless, under the supervision of the administration, and in many cases receive aid from the government. The following table, taken from the *Almanach de Gotha*, will show what France includes in "public works" and will indicate the amount expended.

It is not within the province of this paper to discuss the policy pursued by the French government in building the important roads and bridges, nor to criticise the aid given by

* See "Industrial Rivers of the United Kingdom," p. 8.

FRENCH EXPENSES, 1890, FOR PUBLIC WORKS (*in francs.*)

A. Service ordinaire,			
Administration,	22,724,500	Ports et phares,	7,678,000
Routes et Ponts,	34,256,000	Chemins de fer,	31,191,760
Navigation Interieure,	10,814,000	Travaux en Algérie	6,504,124
B. Travaux extraordinaire.			
Routes et Ponts,	3,398,096	Ports,	11,313,600
Navigation Inter.	23,148,626	Ports en Algérie,	2,086,612
Chemins de fer,	16,121,000	Autres travaux,	875,000
Total for Public Works,			170,761,318

it to the departments and communes in the construction of minor works*. Nor is this the place to treat of the French railroad policy. That subject might be considered with profit in connection with a study of the relation of the United States to railroads, but the only public works included in this discussion and comparison are the improvements of rivers and harbors. That these should be governmental enterprises is little questioned; the subject for present discussion is one of ways and means.

The distinguishing features of the French method of improving rivers and harbors, and those that most interest us in this comparison are the wide discretionary powers given the executive branch of the government in the expenditure of money; and, second, the plan of considering a work of improvement *in toto*. By this second feature is meant that the government, if it decides to improve a particular river or harbor, considers plans for the entire, the completed work; and not plans for merely entering upon an enterprise. The appropriations, consequently, are made sufficient to complete the work; and not in small amounts large enough only for a beginning. The advantages of these features of the French plan will be given in another connection.

*M. Blaise in the "Dictionnaire de l'Économie Politique," II, 768-9, makes the following charges against governmental aid to local works: 1. Works have been too numerous; 2. Works have suffered because of smallness of annual appropriations; 3. The public funds have been too much divided up; 4. The enterprise of local communities has been paralyzed; 5. The execution of public works has been lax; 6. "Log-rolling" has been resorted to in order to secure appropriations. These statements, made nearly forty years ago, are doubtless to be taken with liberal discount.

In the foregoing chapter reference was made to the way in which the United States carries on her improvements. Her plan thus far, has in the main, been to begin simultaneously a large number of widely-scattered works. Congress appropriates at first only enough to begin them, leaving to the other Congresses to continue, or discontinue if they choose, the works thus begun. The labor on these improvements is usually done by contractors in accordance with the plans and under the supervision of United States engineers. Contracts can be let for only such parts of the work as the money appropriated will pay for. The methods pursued by the United States, have lately received slight changes. These with a consideration of the advantages and disadvantages of the system will form the subject of the following chapter.

V.—REMARKS ON THE PRESENT POLICY OF THE UNITED STATES REGARDING RIVERS AND HARBORS.

This brief survey is sufficient to reveal the policy of the United States in regard to river and harbor improvement. The need and the demand for national aid to such works increase with the growth of our economic and commercial importance as a nation. Despite a wide-spread opposition, the appropriations for rivers and harbors have increased, and will continue to do so. The action of Congress in the past is not above criticism ; neither can it be hoped that future action will be faultless ; nor can it be expected that the restraining influence of able and conservative engineers will entirely obviate the evils that follow in the wake of "log-rolling" legislation. However slight the evil consequences of bad methods of legislation have been in the past, they have, none the less, been too great ; and ought to be lessened in the future, by putting an end, if it be possible, to "log-rolling" in legislation, and by adopting a wiser method of expending the national treasure. To this end criticism should be directed ; as it is in this direction that improvement is to be looked for.

An economic institution, such as the one under consideration, may be criticised from three standpoints :* First, from that of its history ; second, with regard to the plans employed in applying the public money ; and third, with respect to the gains of the commonwealth. The criticism of river and harbor bills from the standpoint of their history has been but casual in this paper. An exhaustive criticism would involve a statistical study of a large number of typical improvements, with a careful comparison of expenditures and receipts. Should such study, when made, show results favorable to the commonwealth, the inevitable conclusions would be that the principle involved in such expenditures was a good one, and that these expenditures should be continued and increased ; of course, in a wise and conservative way. The statistics given in the following paragraphs are intended to be typical rather than exhaustive, yet they are quite full enough to draw conclusions from. The increasing support given the system by the most enlightened nations of the earth not only throws the burden of proof on the negative, but warrants the affirmative in asserting without arguments the correctness of the principle. Again, it is equally true that the historical study does not need to be exhaustive to show mistakes of method in the past. An analysis of present legislation in the light of what other nations are doing shows clearly that the benefits now accruing to the commonwealth are not so great as they might be made.

It is, nevertheless, well to be on our guard against underestimating the benefits that have followed governmental improvements. This has been done so frequently, and by those whose statements are usually made carefully, that it seems necessary to emphasize, at least briefly, the positive good that has resulted. A good stream for study is the Ohio River, the improvement of which, beginning in 1827, has led to about forty appropriations involving a total outlay of more than nine million dollars.† The annual tonnage of

* See preface to Senate Ex. Docs. No. 196, 47 Cong., 1st. Sess.

† \$9,141,572.16.

the Ohio reached in 1890 the enormous amount of 6,000,000 tons.* In addition to its commercial importance, the river has played something of a military rôle in our history. The returns, in a military and industrial way, to the commonwealth for the money expended on the Ohio River can fairly weigh much in our judgments regarding the advisability of putting money into the improvement of important natural waterways.

The Mississippi River shows similar results. Probably no stream can exhibit better returns on capital invested than this river of greatest commercial importance. A large outlay of money has been made (the total amount being about \$35,000,000; the appropriation of the last bill being \$4,567,000); but the improvements have, as a general thing, been scientifically conducted. The tonnage that has resulted is exceedingly large; being 13,173,391 tons in 1890.†

Commerce on Lake Superior is, perhaps, the best example of what river and harbor improvement can do. But a few years since the traffic on the lake was insignificant; St. Mary's river was impassable for lake boats; but now the annual tonnage of the river has reached 8,288,530 tons.

Examples of large returns for the improvement of rivers and harbors might be multiplied, but it is unnecessary. The consideration of a more humble stream, one of less commercial importance, will be of value, e. g., the Black River, of South Carolina.‡ This is one of the streams

* This, and other tonnage statistics are taken from an "Outline map of the United States and Territories, prepared in the office of the Chief of Engineers, U. S. A., under the direction of Major H. M. Adams, Corps of Engineers, U. S. A., showing the tonnage of the navigable rivers of the United States, compiled from annual reports, 1890."

† Between Illinois River and St. Anthony Falls.....	3,000,000
" The Ohio and Illinois Rivers.....	4,131,354
" New Orleans and the Ohio River.....	3,179,776
" New Orleans and the mouth.....	2,862,261

Total.....13,173,391

‡ Black River, South Carolina, is a stream about 200 miles total length, and 1,200 square miles of drainage area; it rises in Kershaw County, S. C., and empties into the Great Pee Dee River at a place called Kinloch Bay, about 4½ miles above Georgetown, S. C. The portion examined, from Kingstree to its mouth, has a length of about 120 miles (35 miles in an air line). The following report refers entirely to this last mentioned portion of the river.

that the bill of 1890 directed to be surveyed. The survey has been made. The following quotation from the report of the Engineer in charge, Capt. W. H. Bixby, made February, 21, 1891, needs no comment :

“On the upper 80 miles of the river the present commerce is only about \$100,000 per year, but it is estimated that this might readily be increased to \$500,000 per year if the river were properly cleared out by the mere removal of snags and fallen trees from its channel and leaning and overhanging trees from its banks, at a cost of not over \$25,000, *thus developing sixteen dollars of annual commerce for each dollar once spent in the improvement.* Greater development than this has already in the past 10 years been obtained from the clearing out of similar neighboring streams.”

A glance at two rivers where the results have been very unfavorable may be taken at this point with interest and profit. This will indeed be the fairest way possible of emphasizing the good results of river and harbor improvements. The Missouri River and the Fox River of Wisconsin, have often been cited ; their improvements are pointed to as illustrious examples of Congressional folly and waste. The testimony here given of men qualified to speak, is valuable, not only for the information regarding the work done on these rivers and the present amount of their traffic, but is also important because of the criticism it contains. Concerning the Fox River Prof. George S. Albee, of Oshkosh, Wisconsin, (President of the State Normal School in that city) says : “There are three lines of steamboats upon the upper Fox and tributary to the Wolf ; one line between Green Bay and Oshkosh and some half dozen special traffic boats doing more or less line business, but also running in the interest of some private firm. This comprises almost the entire traffic upon the Fox River. The government has been a very great assistance to the individual owners of water power. This obligation of government to maintain dams relieves private owners almost entirely of the preservation of dams and storage. There is no doubt of the great advan-

tage of improvement to the cities on the line ; though whether it should originally have been done by the government is a much disputed question. Still when the improvement is once completed, the expense of keeping in repair will be very slight. The trouble is that the government has been rather too niggardly in its annual appropriations and the work has been carried on at a great disadvantage and extra expense." Surely the much-ridiculed improvements of the Fox River have not been without some benefit to the public !

Of the Missouri River Senator Vest speaks as follows :

" While there are only three steamboats plying upon the Missouri River at this time between Kansas City and the mouth, it is of the greatest importance for the government to make liberal appropriations for the improvement of that stream. So long as the river is kept in navigable condition, that fact constitutes a check upon overcharges by the railroads.

The difficulty heretofore about appropriations for the Missouri has arisen principally from a conflict of opinion between Congress and the engineers in charge of the river. The Missouri River Commission, which was created at my instance in 1883, is composed of five members, three of whom are engineer officers and two are taken from civil life. The Commission has persistently recommended to Congress that the river should be improved by reaches of ten miles each, commencing at the mouth and going up the river, so as to insure systematic work.

This plan has not been received with much favor by Congress, and principally for the reason that it prevented the objectionable system of appropriations for local improvements which has furnished a convenient means to members of Congress for manifesting their zeal in behalf of their respective Districts. I have myself always favored the plan recommended by the Commission. In the last River and Harbor Bill it was partially adopted.

I am not able to give any detailed information as to the

amount of passenger and freight traffic on the Missouri river now. It has fallen off very greatly for the simple reason that the river has been somewhat neglected as to improvements, but principally because in our hurried American life speed and time are required both as to passengers and freight, and of course the railroads have a great advantage in both these respects."*

The first paragraph of the letter gives one of the arguments for river improvements which were stated at the beginning of this paper ; the last paragraph shows the false economy involved in neglecting or discontinuing works begun. The following quotation from the bill of 1890 will show to what extent the plan recommended by the Missouri River Commission, and favored by Senator Vest, has been adopted : "Improving the Missouri River from its mouth to Sioux City, Iowa, inclusive, * * * eight hundred thousand dollars, to be expended by the Secretary of War *in the systematic improvement of the river from its mouth up* according to the plans and specifications of the Missouri River Commission, to be approved by him *in reaches* to be designated by them."

This study of the gains flowing from river and harbor improvements has included works that yield large profits on capital invested, those that make but moderate returns, and has not omitted to consider the streams where money has been declared to have been wasted. The preceding discussion suggested, however, the following adverse criticisms.

The French system of treating works of improvement, *in toto*, is superior to the English and to the American ; its superiority over ours is shown in several ways. If the United States in entering upon an improvement of a harbor or river followed the plan it pursues in erecting a public building, i. e., if Congress from the beginning had clearly in mind the ultimate result desired, considered plans and estimates to secure a completed product, had contracts let for the entire work and made appropriations accordingly (instead of considering, as at present, whether a proposed

* The tonnage of the Mo. River in 1890 was 865,493 tons.

improvement is desirable or not, and if found desirable, making a small appropriation, only large enough to begin the work), then the number of works begun would be greatly lessened, those entered upon would be more thoroughly national in character and the present "log-rolling" method of legislation would find less scope for exercise. Were there no doubt as to the national importance of a proposed appropriation there could be no object in "log-rolling."

The problem involved in discussing "log-rolling" is how shall the people be led to subordinate local improvements to national ones of greater commercial importance? How shall the representative in Congress be freed from the pressure to work for improvements in his own district first of all, regardless of their relative importance? I see no ultimate remedy but in an educated public sentiment that will cause the people to appreciate more fully the importance of scientific methods; and in a stronger sentiment of nationality that will make it easier for us to regard first the interests of the nation as a whole and second the interests of its parts. The greatest evil that results from substituting this zeal for the district for a zeal for the nation is the large number of works. Think of carrying on 435 works with an appropriation of \$25,000,000! Every effort of the corps of engineers is to keep the number of works down. I have already spoken of the attitude of the Chief of Engineers. The bill of 1890 directed 203 surveys to be made. April 3, 1891, 193 of them had been made and over half of the 203 proposed works had been reported as "unworthy of improvement." The engineers thus do what they can to prevent ill-advised undertakings.

The methods at present employed by the United States lead to a great deal of needless waste. This waste does not primarily mean the expenditure of money on works of no importance (a kind of waste which has been shown to be comparatively insignificant); but one resulting from the destruction of works, due to their standing in an unfinished

condition. This manifests itself especially in a river improvement which if begun and left uncompleted can hardly escape great damage. Captain W. H. Bixby, of Wilmington, N. C., has pointed out a waste allied to this in his report on Black River, made February 21, 1891. After having stated that \$25,000 were needed to make the improvement of the river he says: "For advantageous and economical work, this amount should be voted at the rate of about \$10,000 or more per year. Smaller or irregularly voted appropriations will involve the alternate disorganization and re-organization of working parties, extra superintendence, deterioration of plant, and extra cost of moving plant over long distance to and from the place of work and may considerably increase the final cost of the work."

A third advantage of the French way of pushing improvements to a speedy completion is the saving to the public resulting from the earlier receipt of the interest on the investment. The sooner an investment becomes profitable, the better is the outlay. The improvements of the Great Kanawha River are an instance in point. The plans submitted for rendering the river navigable called, among other things, for the construction of some twelve or fourteen locks. The proper construction of a lock requires three years. Now, had the plans for the improvement of the Great Kanawha been accepted as a whole, the work as estimated been authorized, and the engineers instructed to complete the work as soon as possible, the work might have been begun at once all along the river, and the stream have been rendered navigable in three years. By following the plan that was adopted it is taking several times three years; the public meanwhile sustaining the double loss due to destruction of property and to the failure to receive as soon as it might the interest on its investment. A fourth advantage of the French plan is the possibility of large contracts. This needs only to be stated to be understood; the economy of a few large contracts over many small ones

is patent.* Fifth, our policy of making small appropriations, sufficient only to begin the work, often compels the engineer to resort to makeshift, temporary plans, instead of allowing him to adopt more scientific ones looking to the continuous prosecution of a project through a series of years. Congress has often, as Professor Albee indicates in regard to the Fox River, Wisconsin, pursued a penny-wise and pound-foolish policy of economy.

There is evidence that these truths are being accepted in the United States. President Arthur, in his veto of the bill of 1882, recommended that Congress authorize the Secretary of War and President to spend such of the money appropriated by the bill as they (the President and Secretary) might determine, and on such objects only as were named in the bill, with the restriction that no more be spent on any object than the bill appropriated for such particular work. This proposition to give the Secretary of War greater discretionary power was a good one. The Secretary, being quite free from political pressure and relying on the counsel of the engineers, is better able than Congress to make a really economic and scientific application. The bill of 1890 gives a good deal of discretionary power to the Secretary of War, and it is to be hoped that future bills will go further in this direction. Our zeal for Democratic rule has led us, in the matter of river and harbor improvement, to subordinate the executive too much to the legislative. The French government gives the executive branch greater power in this matter than we give our executive, and with what results has been shown. Reform here, as in certain other matters, will follow the extension of executive functions.

The plan of the Missouri River Commission, mentioned in Senator Vest's letter, to improve rivers in reaches beginning at the mouth, must commend itself as wise. The plan is

* Congress has recognized this fact, and by the last bill has made it possible to partially secure the advantages of large contracts by allowing "the cumulation of two or more works of river and harbor improvement in the same proposal and contract, where such works are situated in the same region and are of the same kind or character."

not a new one, nor did it originate with the Missouri River Commission. Other engineers have used it before ; Col. Craighill employed that plan in improving the harbor of Baltimore. The bill of last year, however, is the first one to compel the abandonment of sporadic works of improvement on any river that extends through several Congressional districts, and to require the money to be spent in the improvement of the river by short reaches beginning at the mouth. There may be objections to making the reaches as short as ten miles, the length advocated by the Missouri River Commission. The engineers having the improvement of the Missouri river in charge have divided the course between St. Louis and Sioux City into four reaches ; and will systematically improve each reach in turn, beginning with the lowest. A still wiser plan would be to begin work along the entire navigable course of the river and complete the improvement as soon as possible ; but the plan of the Missouri River Commission leads to a more economic use of funds than the plan of constructing scattered works, and fits well into the present policy of making small, partial appropriations.

The bill of 1890 contains one other new feature, and it is the most promising of all. The appropriations for the harbors of Philadelphia, Baltimore and Galveston, and for the St. Mary's river and Hay Lake Channel, Michigan, have been granted in the form the engineers have long advocated. For the improvement of the harbor of Baltimore \$340,000 is given, with the provision "That such contracts as may be desirable may be entered into by the Secretary of War for the *completion* of the existing project, or any part of same, to be paid for as appropriations may from time to time be made by law." The provisions accompanying the appropriations to Philadelphia and Galveston are similar ; and the same power is given regarding the contracts for the work of improving St. Mary's river and Hay Lake Channel. This differs little from the French plan previously referred to. It enables the engineers to prosecute the work according to

scientific plans, to finish it sooner and with less waste of capital. The adoption of this policy regarding the five works named was considered, so I am informed by a member of the last House Committee, as an important move. The Committee regard this as but the inauguration of a policy that they hope to see extended to all the important works of improvement. Every intelligent man must certainly desire the realization of this hope.

Briefly to restate: It is believed the opponents of the river and harbor bill are not without some reason on their side; but that those who oppose the principle of improving rivers and harbors at the expense of the federal government have taken a wrong stand. Again, much of the criticism of Congress arises from an over-estimation of the evils of "log-rolling," and from an exaggerated notion of the amount of money spent on works which cannot result advantageously to commerce. Much of the criticism is misdirected; *the change demanded by the facts lies in the direction neither of no expenditure nor of less expenditure, but in the direction of more expenditure in a wiser manner, a manner in which the public money shall be more scientifically expended on works fewer in number and more strictly national in character.* To adopt the French plan of constructing works *in toto* would best secure these results. If the present policy continues, as it doubtless will for some time yet, many of the present evils can be avoided by giving the Secretary of War greater discretionary power in the expenditure of appropriations; by the improvement of rivers by reaches, beginning at the mouth, instead of by making improvements scattered along the river, and lastly and chiefly by making all appropriations for rivers and harbors in the form of those provided for in the bill of 1890 for the harbors of Philadelphia, Baltimore and Galveston, and for the St. Mary's River and Hay Lake Channel.

A BRIEF LIST OF THE MORE ACCESSIBLE WORKS UPON
THE SUBJECT.

Criticising Congressional Action :

1. Ely : "The National Revenues." (Edited by Shaw.)
2. Hart : "The Biography of a River and Harbor Bill," in the "Papers of Am. Hist. Assoc." Vol. III.
3. Pres. Arthur : Am. Cyclopædia Annual. 1882. P. 148.

History of River and Harbor Bills :

1. Johnston : "Internal Improvements," in Lalor's Cyclopædia.
2. Text of Bill of 1890.
3. Messages of the Presidents, especially those of Jackson and Polk.
4. Johnston's American Politics—consult index.
5. For a statement of Appropriations, and for all legislation, relating to rivers and harbors consult "Laws of the U. S. Relating to the Improvement of Rivers and Harbors, from August 11, 1790, to March 3, 1887." Sen. Mis. 91. 1887.
6. For Statistics of Tonnage of the rivers and harbors of the U. S. in 1890, consult "Outline Map," prepared by Major H. M. Adams, Engineer Corps, U. S. A.

The English and French Methods :

1. "The Industrial Rivers of the United Kingdom."
2. Sir John Rennie on : "The Theory, Formation and Construction of British and Foreign Harbors."
3. "Local Government and Taxation in the United Kingdom." Pp. 231-5.
4. H. D. Traill : "Central Government ;" the chapter on "Board of Trade."
5. Report of the Fourth International Congress on Inland Navigation, held in Manchester, England, 1890."
6. Block : "Dictionnaire de l'Administration Française," the article on "Travaux Publics."
7. Blanche and Ymbert : "Dictionnaire General d'Administration," the article on "Travaux Publics."

For Statistics of English and French Appropriations consult the "Almanach de Gotha."

EMORY R. JOHNSON.